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10/517,117

08/17/2005

Franz-Leo Heinrichs

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INTELLECTUAL PROPERTY DEPARTMENT  
4000 MONROE ROAD  
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EXAMINER

NGUYEN, COLETTE B

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/517,117 | <b>Applicant(s)</b><br>HEINRICHS ET AL. |  |
|                              | <b>Examiner</b><br>COLETTE NGUYEN    | <b>Art Unit</b><br>1793                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Status of the application*

***Claim 11, 20 and 21 cancelled. Claims 1-10,12-19 are previously presented and ready for examination.***

### *Restriction*

1 The response and selection is acknowledged. Applicants confirm their election of Group I, claims 1-19 without traverse. Claims 20 and 21 have been cancelled without prejudice to filing a divisional there upon.

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1-18** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1-6 of copending Application No.11/711229. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reaction products claimed in the application and the three amide wax A,B and C of the co dependent application have identical starting

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products, i.e. ethylenediamine with a mixture of linear fatty acids of C<sub>6</sub> to C<sub>20</sub> and 1,2 hydroxystearic acid.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,6,7,11,19 are rejected under 35 U.S.C. 102(b). Chartterjee (WO 00/68329) teaches various emulsifier solutions for Bitumen with an acid number between 4.5 and 8.5, using either saturated or unsaturated long chain fatty acids or a mixture thereof. These fatty acids can be obtained from tall oil fatty acid, tallow fatty acid or palm oil, then reacted with a polyamine, such as ethylene polyamine. Alkali number is not discussed, however the starting products and the production methods are identical to those according to the application, therefore the alkali number of the end product would be expected to be similar. The materials are commensurate and used in the same amounts.

Claims 1,6,11,19 are rejected under 35 U.S.C.102(b) over SFDP(677,935). SFDP discloses a method of making a hydrocarbon binder for Bitumen, also using fatty acids

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and ethylene diamine, having the formula  $\text{NH}_2\text{-R-NH}_2$  where R is an aliphatic or aromatic, natural or synthetic, using 1300kg of tall oil, i.e. long chain fatty acids and 519 kg of ethylenediamine, a ratio of 2:1 as the instant claim. Acid and alkali numbers are not discussed however, but since the starting products and the production methods are identical to those according to the application using a same ratio, it can be assumed that the known and the claimed results are identical, i.e. the parameters are inherent in the products according to the prior arts.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 8, 9,10,12,13 are rejected under 35 U.S.C 103 (a) as being unpatentable over Chatterjee in view of Olivier FR 2765229). Chatterjee teaches a saturated or unsaturated fatty acid or a mixture thereof with 65% -75% by weight but does not teach specifically carboxylic acids as a bitumen binder. Olivier, on the other hand teaches an additive for Bitumen made of amine compound with carboxylic acids having  $\text{C}_4\text{-C}_{20}$  with preference to stearic acids (page4, line 24-28) to increase softening point and viscosity at low temperature. Both teachings and the claims differ in that they do not teach the exact same proportions as recited in the instant claims.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to use a carboxylic acid taught by Oliver as fatty acids to react with an ethylenediamine, as taught by Chatterjee to have a good Bitumen binding with low softening point and low viscosity.

It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Claims 3 to 5 and 6 to 18 are rejected further under 35 U.S.C. 103 (a) as obvious over SFDP in view of Olivier. SFDP specifically teaches a polyamine including ethylenediamine with a general formula  $\text{NH}_2\text{-R-NH}_2$ , where R is an aliphatic or aromatic, with preference of ethylene. And for fatty acids, SFDP clearly indicates that saturated or unsaturated fatty acids can be used, such as palmitic, stearic, oleic, linoleic, etc., natural or synthetic carboxylic acids may also be used. (Col1, line24-45). Furthermore, Olivier specifically points out that the HF wax is a type of amine wax derived from carboxylic acids with an aliphatic amine, especially ethylenediamine. (page 4, line20-25). Therefore, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious.

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Regarding claims 3-5 and 18, SFDP and Olivier do not give the same specific ranges of fatty acids, however, it would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding Claim 8, SFDP teaches the use of either saturated or unsaturated fatty acids and the mixture thereof but does not specify dicarboxylic as a material of choices for a Bitumen additive. Olivier specifically teaches a formula with dicarboxylic (page4,line21) . It would have been obvious to one of ordinary skill in the art to combine both teachings to improve binding and viscosity of Asphalt or Bitumen.

Regarding Claim 9. SFDP teaches a ratio of fatty acid mixture to amine 2 :1.

Regarding Claim 10. Carboxyl functionality of 2 is inherently derived from the reaction of an ethylenediamine with fatty acids. Oliver(p4,L21),

Regarding Claims 14,15,16, and 17.Both SFDP and Olivier teach a polyamine  $\text{NH}_2\text{-R-NH}_2$  where R is an aliphatic, or aromatic radical, with preference of ethylene diamine. (SFDP. Col.1, L41-45).(Oliver.p4,L27-28).

### ***Response to Arguments***

1. Applicant's arguments filed 12/08/08 have been fully considered but they are not persuasive.

2. **Regarding Chatterjee (WO00/68329) rejection.** Applicant argues that *“aminonamines resp. imizolines are generated when fatty acids and polyamines are reacted in a molar ratio less or equal 1:1(for instant also 1:2) and there are no ethylenediamine reaction in the examples at all”*. This argument is not persuasive as the argument is contradicting with the claims, especially with claim 2 where *“the ratio of the fatty acids to the at least one aliphatic diamine is 2 to 1”*. The invention relates to reaction of long-chain fatty acids and aliphatic diamine and their use which is the same invention as Chatterjee's main teachings which is the "use of fatty acids, mainly 75% of long chain fatty acids having C<sub>14</sub>-C<sub>22</sub> (Page 10, ln 12) with ethylene polyamine, including ethylene diamine of mole ratio of 1:1 to 2:1 ( Table 5, ex. 5-1) and Table 6, ex 6-3). Chatterjee product has acid number between 4.5 and 8.5, which is <15 as claimed, therefore the alkali number would be expected to be similar as these parameters, namely the acid and alkali numbers are inherent in the products. As the starting products are similar therefore the end products would have a same alkali value which is less than 10. Charterjee clearly said on page 20: *“ These examples and description will suggest many variations and alternatives to one of ordinary skill in this art. All these alternatives and variations are intended to be included within the scope of the attached claims. Those familiar with the art may recognize other equivalents to the specific*



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*embodiments described herein which equivalents are also intended to be encompassed by the claims attached hereto.*

**3. Regarding SFDP(677,935) rejection.** The argument is not convincing and persuasive. SFDP teaches a bituminous binder comprised of saturated or unsaturated fatty acids having more than 8 carbon atoms (long chain fatty acids) such as palmitic, stearic, oleic and linoleic acids with polyamines including ethylene diamine with a mole ratio of 1:1 to 2:1. In example IV, page2, SFDP clearly uses 1,300 kg of tall oil, i.e. long chain fatty acids, and 519 kg of ethylenediamine, a ratio of 2:1. Acid and alkali values are silent, however these parameters are inherent in the final products which are similar as the claims therefore the acid and alkali numbers would be the same.

**Regarding rejections under 35 USC 103.** As both rejections of 102 based on Chatterjee and SFDP remain and as discussed above, the 103 rejections in view of Olivier are deemed to be appropriated. The arguments are not persuasive.

### ***Conclusion***

**4. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLETTE NGUYEN whose telephone number is (571)270-5831. The examiner can normally be reached on Monday-Thursday, 10:00-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Mayes can be reached on (571)-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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/COLETTE NGUYEN/  
Examiner, Art Unit 1793

CN  
March 12, 2009

/Melvin Curtis Mayes/  
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